Additional file 11. Gene Ontology (GO) analysis summary.

Gene ontology analysis was conducted via the geneontology.org site on January 27, 2016 (Analysis Type: PANTHER Overrepresentation Test - release 20150430; Annotation Version and Release Date: GO Ontology database - Released 2015-08-06). The database contained 13,690 *D. melanogaster* genes, and 245/252 (1,898/1,940) of the genes showing differential expression in bodies (heads) were present. Selected "biological process" GO category results are shown below. The "Genes" column is the total number of genes of that category in the database, "DE genes" is the number of those genes identified as differentially-expressed in our dataset, "FE" is the fold enrichment (the number of genes identified relative to the number expected by chance), and "*P*-value" is the result of a Bonferroni-corrected significance test for enrichment.

Bodies

GO Category	Genes	DE Genes	FE	*P*-value
antibacterial humoral response (GO:0019731)	29	10	>5	5.49E-07
All 10 increase expression with age				
defense response to Gram-positive bacterium (GO:0050830)	41	11	>5	9.27E-07
All 11 increase expression with age				
defense response (GO:0006952)	330	28	4.74	4.25E-08
All 28 increase expression with age				
egg coat formation (GO:0035803)	14	5	>5	1.71E-02
All 5 decrease expression with age				
skeletal myofibril assembly (GO:0014866)	7	5	>5	5.93E-04
All 5 decrease expression with age				
myofibril assembly (GO:0030239)	40	10	>5	1.15E-05
All 10 decrease expression with age				

Heads

GO Category	Genes	DE Genes	FE	*P*-value
antibacterial humoral response (GO:0019731)	29	17	4.23	3.09E-03
16/17 increase expression with age				
defense response to Gram-positive bacterium (GO:0050830)	41	24	4.22	2.24E-05
All 24 increase expression with age				
defense response (GO:0006952)	330	84	1.84	4.63E-04
70/84 increase expression with age				
electron transport chain (GO:0022900)	86	42	3.52	2.21E-08
39/42 decrease expression with age				
ATP metabolic process (GO:0046034)	133	57	3.09	8.93E-10
52/57 decrease expression with age				